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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,277	10/21/2002	Eckard Glaser	313525600003	5198

7590 03/18/2004

EXAMINER	
BELLAMY, TAMIKO D	

ART UNIT	PAPER NUMBER
2856	

Adolf H. Elbert
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32105 Bad Salzuflen,
GERMANY

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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EXAMINER
BELLAMY, TAMIKO D

ART UNIT	PAPER NUMBER
2856	

Calvin P Griffith
Jones Day Reavis & Pogue
North Point
901 Lakeside Avenue
Cleveland, OH 44114

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/089,277	GLASER ET AL.	
	Examiner	Art Unit	
	Tamiko D. Bellamy	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 October 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in PCT/EP01/00580 on 01/19/01. It is noted, however, that applicant has not filed a certified copy of the 10036 567.1 application as required by 35 U.S.C. 119(b).

2. Preliminary amendment dated 11/25/02 has been received and entered. Claims 1-5 have been canceled. Claims 6-18 are currently pending.

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 8-20 have been renumbered to 6-18.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 9. Please see page 7, line 5. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 11. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in

the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the memory must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 6-14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope et al. (5,359,541) in view of Ishizaka (4,235,099).

With respect to claim 6, Pope et al. discloses a transmitter (16) coupled to medium (e.g., fluid 14), a receiver (22), and a numerical processing unit (e.g., computer 32). Pope et al. further discloses the use of fast fourier transform (FFT) of the resonance response spectrum which is equivalent to a sampling unit. Pope et al. lacks the detail of an A/D converter coupled to each receiver. Ishizaka discloses an A/D converter (25) and

a sampling device (e.g., amplifier & wave shaper 16). Therefore, to modify Pope et al. by employing an A/D converter would have been obvious to one of ordinary skill in the art at the time of the invention since Ishizaka teaches an ultrasonic device having theses design characteristics. The skilled artisan would be motivated to combine the teachings of Pope et al. and Ishizaka since Pope et al. states that his invention is applicable to using ultrasonic resonance to measure the fluid density and Ishizaka is directed to an ultrasonic device that measures the density of a liquid.

With respect to claims 7 and 8, as depicted in fig. 1 the, Pope et al. discloses the numerical processing unit (e.g., computer 32) that is coupled to a reporting device (e.g., display).

With respect to claim 9, as depicted in fig. 1 the, Pope et al. discloses the numerical processing unit (e.g., computer 32) that is coupled to a reporting device (e.g., display). While, Pope et al. does not use a separate reporting device that is a memory unit, the numerical processing unit (e.g., computer 32) that Pope et al. uses includes memory. Therefore the numerical processing unit (e.g., computer 32) is a combination of a numerical processing unit (e.g., computer 32) and a memory unit, and function the same as the intended uses of the invention.

With respect to claim 10, Pope et al. discloses a signal generator system (26) provides a continuous sine wave for the transmitter (16) (co. 3, lines 17-20).

With respect to claim 11, Pope et al. discloses an ultrasonic transmitter (16).

With respect to claim 12, Pope et al. discloses that the excitation signal is swept through a range of frequencies. Therefore, the transmitter (16) is inherently capable of sending two send signals.

With respect to claim 13, Pope et al. discloses a signal generator system (26) provides a continuous sine wave for the transmitter (16) (co. 3, lines 17-20). The transmitter (16) is inherently capable of sending signals simultaneously.

With respect to claim 14, Pope et al. discloses a signal generator system (26) provides a continuous sine wave that may be swept over suitable frequency range for energizing the transmitter (16) (co. 3, lines 17-20). This teaching clearly infers and/or suggests that the signal generator can be easily manipulated to supply a constant frequency and amplitude to the transmitter (16) as well.

With respect to claim 16, Pope et al. discloses a signal generator system (26) provides a continuous sine wave that may be swept over suitable frequency range for energizing the transmitter (16) (co. 3, lines 17-20).

With respect to claims 17 and 18, Pope et al. discloses a transmitter (16) and a receiver (22). Pope et al. lacks the detail of a transmitter and a receiver formed as a single convertible sensor. However, the use of a transceiver to perform density measurements is well known in the art. Furthermore, the use of a transceiver is a design consideration clearly within the preview of one having ordinary skill in the art. With respect to the further limitation of claim 18, with the modification of using a single sensor as a transmitter and receiver, the device of Pope et al. would inherently have a length of a send signal that is equal to twice the distance between the sensor and a reflection point on

the medium. Therefore, to employ Pope et al. on a transmitter and a receiver formed as a single convertible sensor would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches its use on a device using ultrasonic resonance to measure the fluid density which typically includes a transmitter and receiver.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pope et al. (5,359,541) in view of Ishizaka (4,235,099) as applied to claims 6-14, and 16-18 above, and further in view of Smith (6,301,973).

With respect to claim 15, the combination of Pope et al. and Ishizaka discloses transmitter (16) and a receiver (22). The combination of Pope et al. and Ishizaka lacks the detail of a transmitter and receiver that are coupled to identical channels to be conditioned and filtered. As depicted in fig. 2, smith discloses a transmitter (66) and a receiver (70) that are each coupled to filters (64, 72). Therefore to modify the combination of Pope et al. and Ishizaka by employing filters would have been obvious to one of ordinary skill in the art at the time of the invention since Smith teaches an device having theses design characteristics. The skilled artisan would be motivated to combine the teachings of Pope et al. and Smith since Pope et al. states that his invention is applicable to using ultrasonic resonance to measure the fluid density and Smith is directed to measuring the density of a fluid medium (col. 5, lines 41-53).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamiko D. Bellamy whose telephone number is (703) 305-4971. The examiner can normally be reached on Monday through Friday 10:00 AM to 7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Tamiko Bellamy

T.B.

October 9, 2003

HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800